



# Drinking Water Safety Plans Course: Catchment-to-Tap Risk Management and Surveillance

11 – 15 July 2027

Riyadh - KAFD district five-star



## Drinking Water Safety Plans Course: Catchment-to-Tap Risk Management and Surveillance

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### Introduction:

Drinking water safety plans for catchment-to-tap risk management and surveillance are the subject of this 1-week course for water quality, WSP coordination, desalination, transmission and building water units, which ends with a Water Safety Plan Risk Register and Audit-Ready Plan for a case supply. Many suppliers hold a written plan that nobody uses: hazardous events go unscored, control measures are never validated and verification sampling is disconnected from operational monitoring. Nominees already manage water quality, operations or surveillance tasks, and learning is by case study on real supply records. CoreConcept Training Center delivers this drinking water safety plans course.

### Course Objectives:

- Describe a drinking water supply from intake or desalination plant through transmission, storage and building plumbing as a validated WSP flow diagram
- Identify hazards and hazardous events at each supply stage and score them with a likelihood and severity risk matrix
- Determine and validate control measures and set critical limits, operational monitoring and corrective actions for each control point
- Design verification and compliance sampling programmes with sampling points, frequencies, parameters and result review rules
- Write incident and emergency procedures, boil-water and do-not-drink notices and communication routes for water quality failures
- Prepare a WSP for internal and external audit and compile a Water Safety Plan Risk Register and Audit-Ready Plan

### Target Audience:

- Water quality units responsible for drinking water monitoring, laboratory results and compliance reporting
  - WSP coordination units responsible for leading the plan team, maintaining the risk register and scheduling reviews
  - Desalination and transmission operations units responsible for post-treatment, pumping stations, mains and bulk reservoirs
  - Building and facilities water units responsible for storage tanks, rooftop tanks and internal plumbing in large premises
  - Public health surveillance and audit units responsible for inspecting suppliers and reviewing water safety plans
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## **Course Outline:**

### **Day 1: WSP Foundations, Health-Based Targets and the Supply Chain**

- WHO Guidelines for Drinking-water Quality Framework for Safe Supply
- Health-Based Targets and Their Link to Supplier Risk Management
- WSP Team Charter With Roles, Skills and Meeting Records
- Supply System Description From Intake to Customer Tap
- Flow Diagram Field Verification and Current-State Gap Review

### **Day 2: WSP Manual Modules, Hazard Identification and Risk Scoring**

- WHO Water Safety Plan Manual Module Sequence and Templates
- Hazard and Hazardous Event Listing for Desalination Post-Treatment
- Transmission Main Hazards From Pressure Transients and Ingress
- Reservoir and Rooftop Tank Hazards From Stagnation and Animal Entry
- Semi-Quantitative Likelihood and Severity Risk Matrix Scoring

### **Day 3: Control Measures, Critical Limits and Operational Monitoring**

- Control Measure Identification and Barrier Effectiveness Validation Evidence
- Critical Limit Setting for Residual Disinfectant, Turbidity and Pressure
- Operational Monitoring Plan With What, Where, When and Who
- Corrective Action Procedures When Monitoring Breaches a Critical Limit
- Building Plumbing Control Points for Backflow, Dead Legs and Temperature

### **Day 4: Verification, Sampling Programmes, Incidents and WSP Auditing**

- Compliance Sampling Programme Design With Points, Frequencies and Parameters
- Microbial Indicator and Chemical Result Trend Review Methods
- Incident Classification Ladder and Boil-Water Notice Decision Rules
- Improvement Plan Prioritisation With Owners, Budgets and Milestones
- Internal and External WSP Audit Criteria, Evidence and Findings

### **Day 5: Case Study on a Water Safety Plan Risk Register and Audit-Ready Plan**

- Case Supply Data Pack Review Across Desalination, Mains and Tanks
  - Case Hazardous Event Register and Risk Rescoring Exercise
  - Case Operational Monitoring and Verification Schedule Drafting
  - Mock WSP Audit Interview and Evidence Folder Challenge
  - Water Safety Plan Risk Register and Audit-Ready Plan Completion
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## Skills You Will Gain:

- Supply System Mapping
- Hazardous Event Analysis
- Risk Matrix Scoring
- Control Measure Validation
- Critical Limit Setting
- Verification Sampling Design
- Water Quality Incident Response
- WSP Audit Preparation

## Why Attend This Course:

- Deliver a Water Safety Plan Risk Register and Audit-Ready Plan to the water quality manager and WSP steering group for adoption
- Decide which hazardous events need new control measures, more monitoring or capital improvement first
- Avoid audit findings, unmanaged contamination events and late boil-water notices caused by an unused or outdated plan
- Coach operations, laboratory and facilities colleagues on critical limits, corrective actions and verification records

## Conclusion:

Back at work, the participant gives the water quality manager and the WSP steering group a Water Safety Plan Risk Register and Audit-Ready Plan that ranks hazardous events, sets critical limits and links operational monitoring to verification sampling. Operations and facilities units use it to act on breaches, and management uses the improvement plan to approve spending. After the first internal audit or water quality incident, the team should compare what happened with the plan, rescore affected risks and update procedures and sampling points.

## Frequently Asked Questions FAQ:

### What should participants know before a drinking water safety plans course?

Participants should already work with drinking water quality, supply operations, building water systems or public health surveillance and be able to read monitoring and laboratory results. Bringing an anonymised flow diagram, sampling schedule or existing plan helps them apply the case study to their own supply.

## **How does a drinking water safety plans course differ from a water treatment operation course?**

It manages risk across the whole supply rather than running treatment units. The focus is hazardous events, risk scoring, control validation, critical limits, verification sampling, incidents and audit, while treatment operation courses teach coagulation, filtration and disinfection equipment day to day.

## **Why do drinking water safety plans rely on operational monitoring as well as compliance sampling?**

Operational monitoring shows within minutes or hours that a control measure is working, so corrective action can follow before unsafe water reaches consumers. Compliance sampling confirms safety afterwards but its results usually arrive too late to prevent exposure.

## **What do participants take back from the drinking water safety plans course?**

Participants take back a Water Safety Plan Risk Register and Audit-Ready Plan, plus a risk matrix, an operational monitoring template, a sampling programme layout, incident notice decision rules and an audit evidence checklist they can adapt to their own supply.

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